IMPLANTABLE CARDIAC DEFIBRILLATION ASSEMBLY INCLUDING A SELF-EVALUATION SYSTEM AND METHOD

Abstract of the Disclosure

An implantable cardiac defibrillation assembly includes at least one implantable lead having a defibrillation electrode adapted for placement in a chamber of the heart. The lead includes a connector. The assembly further includes an implantable defibrillation device having a pulse generator that provides defibrillation pulses and that is configured to receive the connector to couple the defibrillation electrode to the pulse generator. The device further includes a system that evaluates and conditions the assembly to provide defibrillation therapy to the heart without requiring arrhythmia induction of the heart. The system may condition the device for defibrillation therapy by reforming the defibrillation output capacitor and evaluate defibrillation lead DC resistance, and R wave sensing and detection. In addition, the system may estimate defibrillation thresholds and electrical fields and condition the device by setting the device to provide an output voltage above the estimated threshold. All of the foregoing may be accomplished without inducing ventricular fibrillation.